

Baker Sockeye Workshop #2

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Fish Program

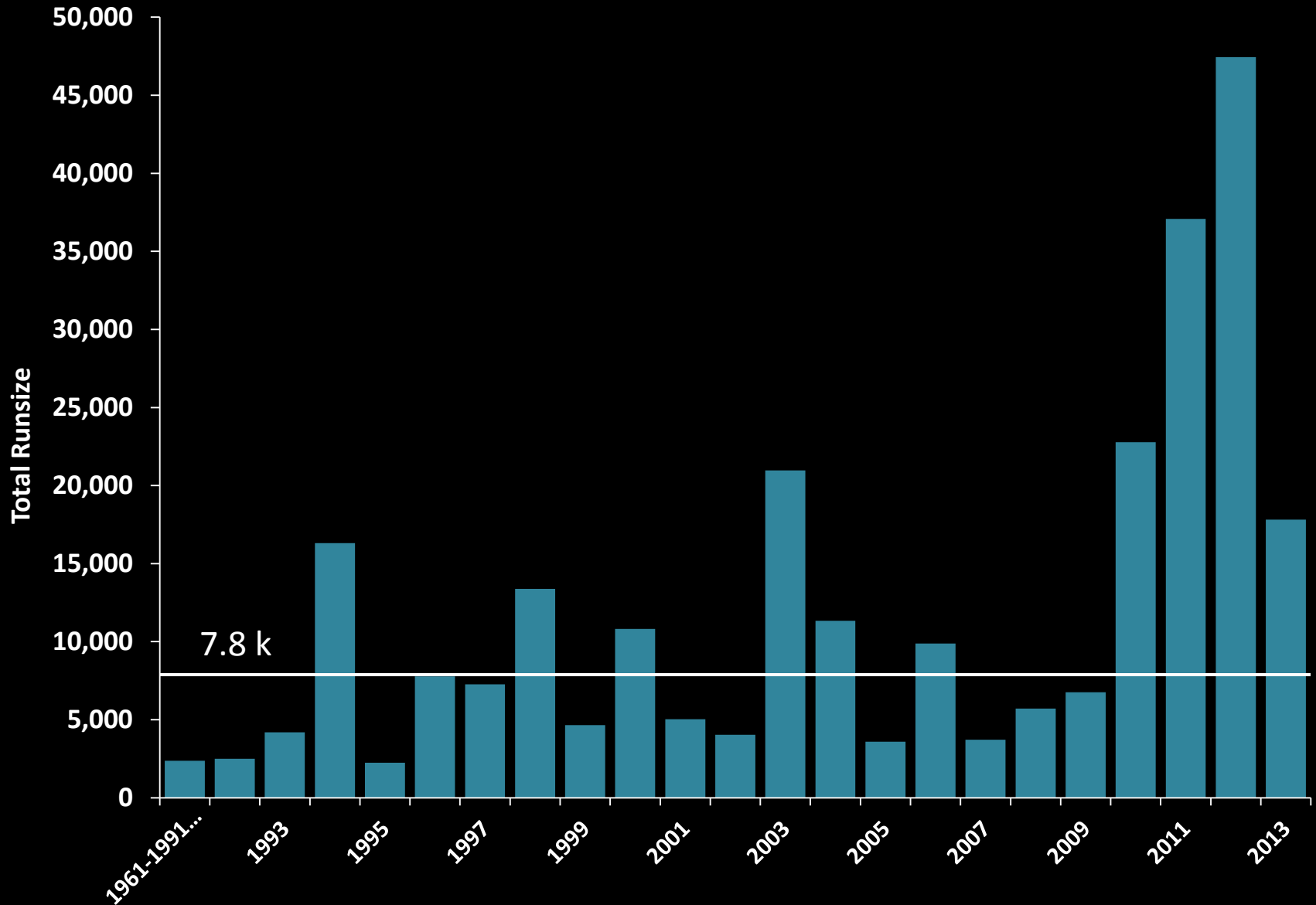


Outline

- Recap Last Meeting – Aaron Dufault
 - Baker Sockeye Management
 - 2014 Sockeye Season
 - Fishery Harvest/Share Summary
- Hatchery Operation – Kevin Kurras
- Management Targets – Brett Barkdull
- Discussion

Recap Last Meeting

Baker Lake Sockeye Runsize



Preseason Forecasts

- Forecasts – # of Smolts X Smolt/Adult return rates
- Marine survival is primary contributing factor to forecast uncertainty – can be extremely variable (eg Fraser sockeye 2009 vs 2010)
- Forecast accuracy improved since 2010

Year	Preseason Forecast	Final Runsize	Runsize/ Forecast
2010	4,485	22,776	508%
2011	23,954	37,075	154%
2012	35,366	48,846	138%
2013	21,557	17,815	83%
2014	35,377	27,739	76%

>100% under-
forecast
<100% over-
forecast

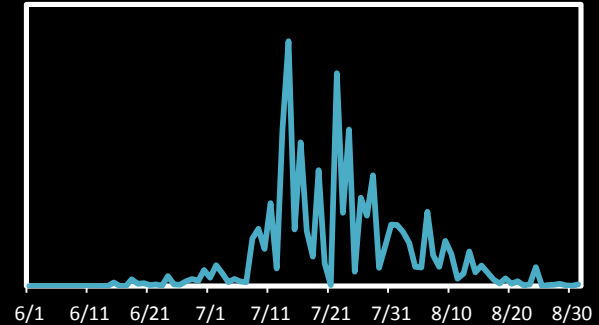
2014 Preseason Summary

- Preseason Forecast – 35,377
- Harvestable Surplus – 27,081
- Non-Treaty Share – 13,540

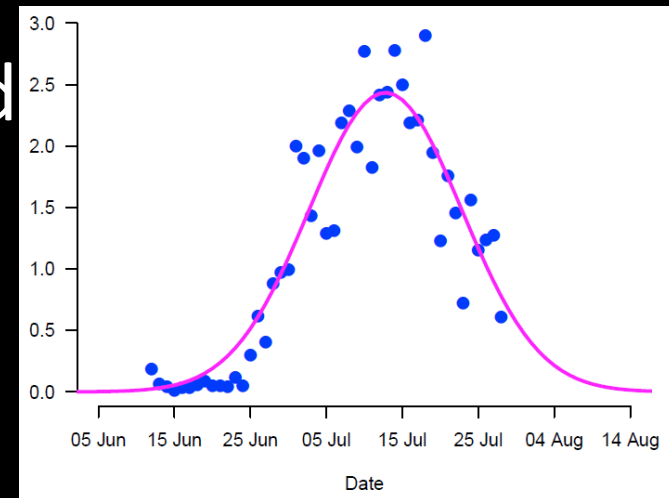
	Goal
Artificial Incubation	2,200
Spawning Beaches	4,100
Natural Spawning	1,500
Trap Mortality	*
Test Fishery	496
Total	8,296

In-Season Management

- Baker Trap Counts
 - Flow Dependent – can be variable



- In-Season Update (ISU) Models– utilize trap counts + river catch to update runsize forecast
 - Reliability of models greatly increases after 50% migration
- Catch (rec + treaty) distributed to trap on later date



Management Action – Run Updates


- Downriver fisheries operate on preseason forecast
- Once adequate ISU data is available WDFW and comanagers exchange data
- *Other* regional fishery information (run strength, timing, etc) is considered
 - Lake Washington
 - Fraser River, BC
- Formally update run forecast when sufficient data available – generally mid July (???)

2014 Season Summary

- Total Runsize – 27,561 (fish still showing up at trap)
 - 50% Date – 7/20
- Broodstocking goals met for season
- Treaty Catch – 13 (13,500 share)
- NT River Catch – 369
- To Lake – 7,207
 - 6,381 by Aug 1



Recreational Harvest vs Share

- **Harvest** – what is actually caught 
 - Lake harvest + River Harvest
 - Can be altered by changes to bag limits, season length/start-end dates etc
- **Share** – what is available for harvest from preseason forecast/in-season update
 - $\text{Rec. Share} = \text{River Harvest} + \text{Fish put into lake}$
 - Share is what WDFW uses as benchmark for comparison to tribal **Harvest**
 - 50/50 sharing of harvestable surplus

Tribal vs. Non-Tribal Harvest

Year	Total Runsize	Treaty Harvest	Rec Harvest (lake)	Rec Harvest (River)	Total to Lake	Share diff.
2010	22,776	3,551	2,933	154	10,414	-5,517
2011	37,075	9,585	8,341		16,305	-5,220
2012	48,846	15,554	9,855	3,064	17,509	-3,519
2013	17,815	4,876	4,795*		6,039	337
2014	27,570	12,758	NA	369	7,207	6,949

- 2010-2014 Total Share (treaty harvest, NT river harvest + fish put into lake)
 - 46,591 Treaty and 53,561 NT Rec
 - Avg. Harvest Rate 29% Treaty and 22% NT Rec

Meeting Notes From 11/1

- Summary of main comments/questions provided during 11/1/14 meeting
- Emailed to all who attended the meeting
- If you did not receive the document, be sure to put your email on the sign in again.

Baker Lake sockeye

11-1-14 Mill Creek meeting notes

Below are the meeting notes, summarized from public input at the Baker Lake Sockeye Workshop on Nov. 1, 2014. We have expanded on the bulleted points with WDFW responses/discussion that took place at the meeting. This summary does not cover everything discussed at the meeting but instead covers the main topics of interest in no particular order.

- More opportunity is wanted
 - The meeting participants seemed to universally support more opportunity. Public input at North of Falcon (NOF) has been supportive of more of the non-treaty share of sockeye being used for lake fishing opportunity than river fishing opportunity, leading to limitation of opportunity downstream.
- Increase bag limits. Increase length of river that is open. Consider different dates for fishery and/or flexible ending dates. Want more bank access on Skagit River. Consider fishing regulations in lower Baker River, economic impact on Concrete.
 - Bag limits and length of season are two ways to increase recreational opportunity for Baker sockeye and is typically discussed at NOF each year. We typically prefer to have pre-determined ending dates for fisheries, which increases compliance with regulations, however extending a fishery (i.e. flexible end dates) if catches were below expectations is one option to help maximize river opportunity. The portion of the river that was open in 2014 was the result of negotiations with the treaty tribes and input from non-treaty fishermen during NOF. There have been issues with conflict during times and areas where recreational openings overlapped with treaty net openings, and seasons in recent years have been developed to minimize the risk of such conflicts.
- Use sonar to count fish at the mouth of the Skagit to get a more timely in-season update
 - A program to estimate of the number of sockeye entering the Skagit using hydroacoustic technology could provide an early and accurate estimate of the number of sockeye returning each year. There are several major obstacles to implementing such a program, including the cost, finding a suitable downstream site for a counting station, and obtaining species composition data needed for hydroacoustic estimates.
- Use adaptive management for fishery
 - Every step of management of Baker sockeye is adaptive. Stock assessment and catch data are updated annually prior to the development of pre-season forecasts. Catch projections for fisheries are updated prior to development of proposed fishing schedules. The most up to date information available is used in-season to inform management decisions.
- Buffer both non-treaty and treaty preseason shares to avoid a situation that would lead to inequity in catch sharing.
 - This idea of a share buffer was a key point made from several constituents in attendance. The concept would put in place limits on both non-treaty and treaty

Hatchery Operations

Hatchery and Ponds



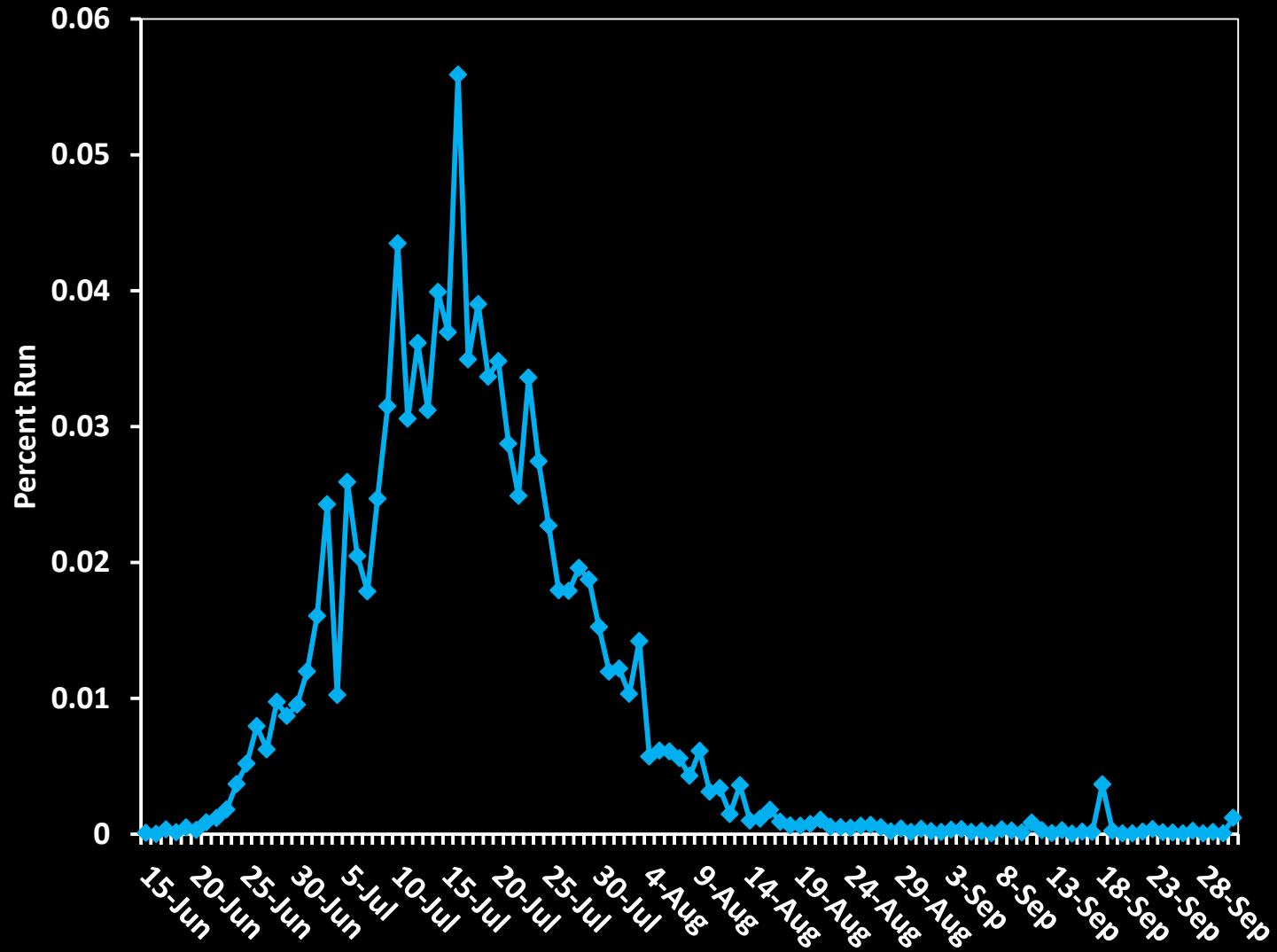
Spawning Beaches



Adult Artificial Incubation



Baker Trap Return By Date



Hatchery Broodstock Schedule

- Broodstock collected over the entirety of the run
 - designed to maintain genetic integrity and run timing of stock
- In 2014, despite the lower than anticipated return, weekly broodstock goals were met



2014 Hatchery Broodstock Schedule

Week	AI Goal	Beach Goal	Total Broodstock
Up to 06/14	0	0	0
6/15 - 06/21	9	5	14
6/22 - 6/28	147	79	225
6/29 -7/5	445	239	684
7/6 - 7/12	848	455	1302
7/13 - 7/19	1132	608	1740
7/20 - 7/26	784	421	1205
7/27 - 8/02	440	236	677
8/3 - 8/9	198	106	304
8/10 - 8/16	64	34	98
8/17 - 8/23	21	11	32
8/24 - 8/30	13	7	19
After 8/31	0	0	0
Total	4101	2201	6300

Fry Production/Lake Rearing

- Slowly ramping up outplanting in both Baker Lake and Lake Shannon
 - Don't know carrying capacity of either lake

Brood Year	Fry Planting Goals Baker	Extended reared Fry Goals Baker	Fry Planting Goals Shannon	Fry to Baker Lake	Fry to Shannon Lake	Smolts from Baker Lake	Smolts From Shannon Lake
2008				2,291,943	0	435,297	1,290
2009				5,108,194	0	203,550	5,958
2010	4,000,000	130,000	1,000,000	4,139,680	950,180	452,612	17,307
2011	3,000,000	130,000	2,000,000	3,558,264	2,000,010	577,085	181,234
2012	4,000,000	130,000	2,000,000	3,836,878	1,349,520	564,432	375,447
2013	4,500,000	330,000	2,000,000	3,775,057	1,948,131		
2014	4,500,000	330,000	2,500,000				

Management in 2015

- Priority: lake or river
- Bag limits: lake, river
- River: season vs. quota
- Lake: start date

Priority: Lake/River Fishery

- See Handout for detailed Breakout

EXAMPLE:

Forecast	Non-Treaty Harvestable	Lake Harvestable	Lake Total	River Season	Bag limit
30,000	11,000	9,625	~11,125	2 weeks?	2 fish?
45,000	18,500	13,875	~15,375	4 weeks?	3 fish?
60,000	26,000	18,200	~19,700	4 weeks?	4 fish?

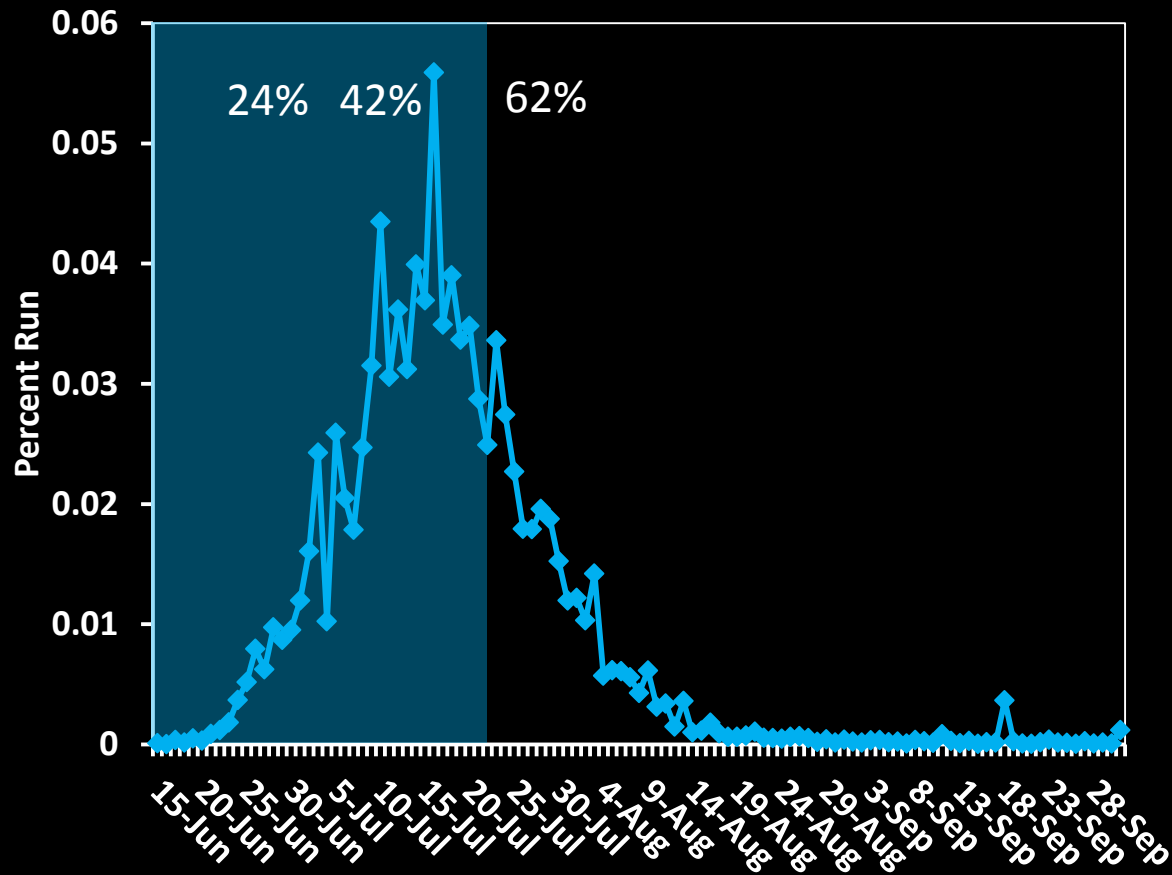
River Fishery Season

- River fishery
 - Based on Quota: emergency regulation shut down
 - Fixed Season in pamphlet



Lake Start Date

- Fixed (in pamphlet) vs. threshold (by emergency regulation)?



NOF Public Meetings

- March 2 (Olympia) – Forecast meeting
- March 18 (Olympia) – NOF#1 – first model runs based on last years fisheries – idea of resource/harvest permit issues
- March 23 (Mill Creek) – Puget Sound Regional Meeting – focus on PS issues
- April 1 (Lynnwood) – NOF#2 – updated model runs
- April 10-16 (California) – PFMC – final negotiations

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